The gong method for capturing shorebirds and other ground-roosting species

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Introduction

In many shorebird studies it is necessary to capture adult birds. While shorebirds can often be trapped on the nest, capturing them away from the nest is usually very difficult and may require expensive equipment.

After weeks of failure in our attempts to capture migrant and resident shorebirds in northern Utah marshes using a variety of mist-netting schemes, we became convinced that nighttime techniques held the most promise for success. Standard nightlighting techniques (Labisky 1968) are not easily applied in these kinds of marshes because of the heavy equipment involved. When we learned of a nightlighting method used by natives of the East Indies to obtain roosting shorebirds for market (H.E. McClure pers. comm.; see Murphy 1955 for a related technique), we decided to try it. The original method involves the teamwork of persons carrying long-handled nets with others carrying torches and still others who chant as they continuously beat on a gong. This paper reports on our attempts to modify this into a western-style operation involving two individuals.

Methods

Equipment consists of: (1) two 6-volt flashlights, (2) a gong and a mallet (if a gong is unavailable, cymbals or one cymbal beaten with a standard gong mallet are suitable), and (3) a triangular net made by lashing three 5-foot (1.5 m) bamboo poles together and loosely stretching a mist net across the framework (any portable net with more than 1 m^2 surface area should be functional, but since the net must be thrown accurately and should not be so heavy that it would injure a bird, we recommend bamboo for the poles).

This equipment is employed by two individuals, designated the netter and the gonger (Figure 1). Each carries a flashlight as they walk across the roosting areas. The flushing distances for most species allow this search phase to be conducted without any gonging. Since shorebirds flush as individuals at night (as opposed to the synchronous flushes which are common in the daytime), the first bird to flush alerts the gongers that more birds are nearby in the grass (if it is a gregarious species). It is very helpful to be able to identify shorebird species by voice. When a desired bird is located with the light, the stalking process begins. The gonger commences beating the gong, softly at first but quickly crescendoing to the maximum sustainable decibel level. Simultaneously, the netter extinguishes his light and approaches the bird from well outside the beam of the gonger's light, which must be trained on the bird continuously. The target bird usually crouches and holds. When the netter is within range (3—10 m), the net is hurled over the bird.

Figure 1. A gonging expedition. Photo by D. Tirmenstein.

Results and discussion

During 1977 we spent over 24 h gonging on at least 6 nights. Our interpretations of the nocturnal behavior of these birds are supplemented by an additional 42 h of solitary nightlighting on 17 nights by TAS. Using the gong method we captured a

variety of species: Least Sandpipers *(Calidris minutilla)*, Long-billed Dowitchers *(Limnodromus scolopaceus)*, American Avocets *(Recurvirostra americana)*, Black-necked Stilts *(Himantopus mexicanus)*, Wilson's Phalaropes *(Phalaropus tricolor)*, and Red-winged Blackbirds *(Agelaius phoeniceus)*. The only birds available on our trapping area that consistently flushed when still out of range were ducks.

We believe that both visual and acoustic crypticity of the netter are critical for the success of this method. Our success rate was severely decreased on moonlit nights. And the flushing distance of the birds increased drastically on windy nights. Thus the ideal situation seems to be a calm, dark night. It is our impression that the sound of the gong functions to conceal the footsteps of the netter, along with other possible effects on the birds. Only very rarely was nightlighting successful on adult birds without the gong. Others have noted that nightlighting works better when accompanied by a steady loud noise such as a running motor (Labisky 1959, Cummings and Hewitt 1964, Drewien et al. 1967, Swenson and Swenson 1977). Taapken and Mooyman (1961) captured shorebirds in Holland with hand-held lights on dark, foggy nights. They had success even on starlit nights when they added the steady sound of a battery-operated buzzer.

While our experience with this method is limited, we feel that its potential usefulness warrants its dissemination to other researchers. It allowed us to capture some nonbreeding birds that we had repeatedly failed to capture using numerous other methods. We encourage anyone using the gong method to experiment with methodology — a more portable noisemaker and a more powerful light are likely improvements. For example, Graul (1979) noted that Mountain Plovers *(Charadrius montanus)* could be nightlighted with a 200,000 candlepower light, whereas attempts with a 40,000 candlepower light failed.

We do not recommend gonging on a nightly basis because of the danger of disrupting a roost. As a final note, if gonging is to be done within earshot of human habitations, it would be well to inform the residents of your purpose. Happy gonging.

Acknowledgments

We are especially grateful to H. Elliott McClure for describing the original gong method to us, and for encouraging us to try it and publish our results. Almost everyone in the ecology group at Utah State University showed interest and enthusiasm for our unusual nighttime expeditions. We thank Keith L. Dixon, Kathy Fite, and Kimberly G. Smith for helpful comments on the manuscript, and the Barrens Company Hunting Club for allowing us to study shorebirds on their property. Our research has been supported by a Sigma Xi Grant-in-Aid to WKP, and by Sigma Xi and Chapman Fund grants to TAS.

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